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Cartooning of an Image/Video Using Opencv and Python

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ABSTRACT

To cartoonize images and different objects and blend them accordingly as we require. Our aim is to create a cartoon which doesn't look like a filter applied on an image but, is actually a cartoonic view of an input image. The bilateral filter and an edge detection mechanism are all that's needed to create a rough cartoon impression.We can access this cartoon images through an application where you can also save them and make changes.

KEYWORDS : Cartooning,cartoon,cartoonpictures,cartoonify,imageconverting,imageformat, animation,generative adversarial network(GAN),image processing and sharp image.

1.INTRODUCTION

Problem statement:

Image processing is a technique used to modify an image in some way, such as by improving it or by eliminating unnecessary functional data. are located in less busy lanes.Cartooning of an image is an interesting project under image processing where it takes an input image, processes it and produces an output as a cartoon.

Motivation:

Cartoons are often sardonic, biting, and slant their opinions on a subject. However, it is not simple to draw cartoons. True mastery of this art form requires years of formal training and the natural talent of a select few. Several breakthrough technologies have emerged in recent years that make this now a realistic goal. to create cartoons entirely on the computer. This can be recreating and helps one to have a cartoonic view of everything..

Objective:

To develop an application to cartoonize humans, other objects and imagesMake it possible to blend as many cartoons as possible Save the cartoons in the application if needed.

Literature Review

M. Sweet, "Traffic Congestion's Economic Impacts: Evidence from US Metropolitan Regions," *Urban Studies***, vol. 51, no. 10, pp. 2088–2110, Oct. 2013**

Traffic congestion alleviation has long been a common core transport policy objective, but it remains unclear under which conditions this universal byproduct of urban life also impedes the economy. Using panel data for 88 US metropolitan statistical areas, this study estimates congestion's drag on employment growth (1993 to 2008) and productivity growth per worker (2001 to 2007).

Md. Munir Hasan, GobindaSaha, Aminul Hoque and Md. Badruddoja Majumder, "Smart Traffic Control System with Application of Image Processing Techniques,"in 3rd International Conference on Informatic Electronics & Vision, Dhaka, May 2014.

In this paper we propose a method for determining traffic congestion on roads using image processing techniques and a model for controlling traffic signals based on information received from images of roads taken by video camera. We extract traffic density which corresponds to total area occupied by vehicles on the road in terms of total amount of pixels in a video frame instead of calculating number of vehicles. We set two parameters as output, variable traffic cycle and weighted time for each road based on traffic density and control traffic lights in a sequential manner.

2. PROPOSED WORK

This phase includes the presentation of the project's feasibility and a business proposal,which contains a very generic project concept and some cost estimates.During the system analysis phase,it is essential to conduct a feasibility study of the proposed system.The suggested system will not be a burden on the business as a preventative step. When doing a feasibility study,it's crucial to know the system's most basic requirements.

There are three important considerations in the feasibility study:
- MARKETRESPONSIBILITY
- THETECHNOLOGY'SABILITYTOBEUSED
- THEABILITYTO TALKTOYOUR FRIENDS

ECONOMICALCONTEXTANDFLEASIBILITY

Purpose of this study is to determine the financial impact of the system on the company. The company's The resources for system development and research are limited. To ensure that the costs are justified,they must be seen as required.To keep costs down, the system's designers used free or low-cost technology for most of its components. Nothing else was required except for the stated goods.

COMFORTABILITYWITHTECHNOLOGY

This study's goal is to determine whether or not the system can be implemented in practice. An ew system's operation should not necessitate a significant investment in technological resources. This is certain to put a significant strain on the specialist equip mental ready in use. This will lead to unrealistic expectations on the part ofthe client.Adopting this approach necessitates few,if any,alterations.

INTERACTIVECOMMUNICATION

To find out if the system is well received by its intended audience, researchers are conducting this study. Securing user comprehension of technology's best practices is akey aspect of this process. The user must not view the system as a burden,but rather as a necessary evil. Only the methods employed to educate and acclimate the user to the system have an impact on how well it is received. It's important to build user confidence so that he or she may offer constructive criticism, which is accepted because he or she istheenduser.

3. IMPLEMENTATION

Upload Image or Video

We have to upload any image or video from the computer then we have to convert that image in to cartoon image.

Convert Image

Downscale the image and then apply bilateral filter to get a cartoon flavour. Then again we upscale the image.

Bilateral Filter: This filter is the key element in the colour image processing chain, as it homogenizes colour regions while preserving edges, even over multiple iterations.

Edge Detection- Process of identifying edges in an image to be used as a fundamental asset in image analysis and locating areas with strong intensity contrasts.

The Open Computer Vision Library (OpenCV) provides a standard toolkit for performing basic and complex image processing algorithms like these.

View Cartoon Image Or Video

Finally, after converting the image or video we can see the original and cartoon image as well as video .

4. CONCLUSION

With this programme, we can take any photo or video as input and use it to generate our own unique cartoon, which we can then modify and combine with other images as needed. We can also keep the pictures for future reference. Video cartoons can be made with the help of a bilateral filter and edge detection.

Future Plans

a cartoonish depiction with sharp, defined contours and consistent hues. We'll begin by applying these qualities to a camera-captured original in order to achieve the desired cartoon effect.

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M. Sweet, "Traffic Congestion's Economic Impacts: Evidence from US Metropolitan Regions," *Urban Studies*, vol. 51, no. 10, pp. 2088–2110, Oct. 2013

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